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"Pay for Promise" in Higher Education: The Influence of NPM on Resource Allocation in German Universities

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Abstract: »*'Bezahlung für Versprechen' im Hochschulwesen: Der Einfluss des NPM auf die Ressourcenverteilung in deutschen Universitäten*«. Quantification as a way to govern by numbers has colonised all sectors of modern societies. In the German higher education sector, a Performance-Based Resource Allocation scheme (commonly referred to as *Leistungsorientierte Mittelverteilung* – LOM for short) has steadily been developed since the 1990s. In an organisational context characterised by increasing international competition and internal differentiation, universities and their regulators have embraced the notion of smart resource allocation through performance indicators. At the same time, the sector has historically been characterised by a traditional cameralistic resource allocation mechanism, where the interactions between the main financiers (state governments), and beneficiaries (universities) were underpinned by a desire to ensure continuity and predictability. Based on empirical evidence, we outline how the university has transformed from a bureaucratic public service deliverer to an adaptable organisation that is supposed to learn from quantified information. This perspective allows for the discussion of quantification as a contemporary steering mechanism.

Keywords: NPM, quantification, German higher education, performance-based budgeting.

1. Introduction

Over the last three decades, the governance of German universities has been subjected to different structural changes, many of which are undergirded by

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processes of quantification. Espeland and Stevens (2008, 407) characterise *quantification* as the "production and communication of numbers". In higher education, numbers and quantification are more narrowly associated with steering and management. Quantification should help enact core values in university governance, such as efficiency, flexibility, transparency or 'steering at distance' (Power 1998, 98-104; Shore and Wright 2000, 73; Espeland and Sauder 2007, 5). This instrumental orientation of quantification to achieve governance aims is exemplified when performance is quantified in order to determine the allocation of financial resources among universities – using quantification to allocate resources to high performers translates into efficiency (Schubert 2008). We argue that quantification is not only a problem of putting things into numbers, but also what one wants to achieve with these quantified figures. In the case of this paper's analysis, we see quantification as a phenomenon that opens up a new tool-box for governance inside universities.

In recent years, policy studies of higher education in recent years have predominantly discussed the effects on organisations of new quantitative instruments created to encourage performance and competition (Zechlin 2008; Fangmann and Heise 2008; Espeland and Sauder 2007; Minssen and Wilkesmann 2003; Strathern 2000). The literature on quantification, in turn, seeks to show how instruments like rankings or performance measurement systems create new forms of (self-) observation, often through social processes of commensuration and comparison (Espeland and Stevens 1998). It highlights either the dynamics of *performativity* and *materiality* (referring to the conditioning character of respectively quantification instruments and their *material* aspects vis-à-vis their users) inherent in those instruments (Kurunmäki, Mennicken, and Miller 2016; Power 2015; Pollock and D'Adderio 2012). Alternatively, some look at the *reactivity* and *gaming* behaviour sparked in affected organisations (Espeland and Sauder 2007; Hood 2006). These studies introduce important insights. However, they often have a singular focus on the effects of individual quantification instruments, and thereby omit these instruments' interaction with other organisational transformations characteristic of universities, such as hierarchisation or budget cuts due to resource scarcity. Inversely, publications focusing on internal reform dynamics tend to pay only limited attention to the manner in which quantification enables and shapes these processes (Hüther and Krücken 2013; Krücken, Blümel, and Kloke 2013; Jongbloed 2006).

Investigating quantification, this paper focuses on the allocation of financial resources inside German universities, and how it contributes to the governance of universities. We challenge two central tenets underlying conventional accounts of quantification. First, we contrast the assumption underlying much of the current literature that the new era of managerialism signifies the realisation of a relatively stable performance-based regime. Instead, we postulate that, rather than creating a new state of relatively stable practices, German higher

education reform has in fact resulted in a situation of ongoing change and evolving performance orientation beyond the ideas of the New Public Management (NPM). When we speak of NPM, we refer to a broad public sector reform ideology that has been on the rise across Europe in most public sector domains, including higher education (Schubert 2008). Second, we argue that performance-based budgeting cannot be fully understood without placing it in a wider context of transformation in the higher education sector, which includes (i) significant cuts in overall budgets, (ii) ongoing adjustments in German universities' internal organisation and (iii) political decisions. When these structural conditions are taken into account, it becomes clear that instead of reflecting a paradigmatic shift towards the ideas and practices commonly associated with NPM and quantification, many aspects of performance-based budgeting in German higher education in fact tend towards traditional, bureaucratic solutions. In this sense, quantification does not fundamentally reconstitute higher education governance, but just rephrases established procedures.

Thus, we ask to what extent an NPM-based governance logic underlies the current state of budgetary allocation models in the German higher education sector. We argue that universities, faced with the novel demands deriving from quantification in these budgetary models, have responded by developing internal organisational capabilities. In particular, we can discern a development from the NPM-like 'pay for performance' towards a strategy we label 'pay for promise'. This pay for promise approach began to surface in German universities after 2010, and can be seen as a response to an unsolicited volatility in university budgets. We apply a historical perspective, which enables us to understand how current budgetary models evolve, what obstacles and limits they had to overcome, and the ways in which they are results of a layering of budget strategies (cf. Reilley and Scheytt, forthcoming): pre-NPM budgeting and performance-oriented models co-exist and interact with new coping mechanisms designed to control the impact of NPM-oriented budgeting instruments.

We set out our argument as follows. In section 2, we discuss the notions of NPM and quantification-based budgeting, and the theoretical model that connects them. Section 3 analyses the development of performance-based budgeting on the basis of an empirical case study of current-day budgeting dynamics in German universities. The findings of this account are discussed in section 4. Section 5 concludes our study with some remarks concerning the role played by quantification in advancing ideas and practices of NPM in the German higher education sector.

2. How Numbers Steer Budgets

The story of quantification is as old as that of the modern university. However, when university governance became linked to NPM reforms in Germany in the

early 1990s, the reliance on numbers took on an altogether different form. In Germany, NPM is perhaps most directly associated with reforms to budgetary systems, which were enacted across the various German *Länder* (federal states) from around 1995 until the early 2000s (Burkhardt and Quaiser 2005). Whereas previously, financial resources were handed out on a predictable basis of necessity (see section 2.1), NPM has now replaced this cameralistic regime with a system of performance-based budgeting, which is commonly referred to as *Leistungsorientierte Mittelverteilung* ('Performance-Based Resource Allocation') or 'LOM' for short. While the cameralistic regime allocated resources on the basis of estimated need for continuing local budgets, LOM focuses on the commensurability of performances and the comparability of these performances across universities, aiming at rewarding the 'better performers'. This is the empirical frame within which we explore the relation between NPM and quantification more closely (section 2.2). Afterwards, we apply the insights from this exercise to the case of current budgetary processes in the German higher education sector (section 3).

2.1 Quantification and the Advent of NPM in Higher Education

The literature on quantification has gained momentum since Hacking's (1990) and Porter's (1995) observations that modern societies increasingly base their self-observations on statistical numbers, developing managerial strategies that rely on quantitative signals to structure decision-making processes (e.g., Miller 2001). In higher education governance, quantification forms a natural companion to NPM ideals. Ferlie and colleagues (2008, 335f.) discern the emergence of an NPM 'narrative' in higher education, and enumerate various 'signs and symptoms' of the presence of quantification; for example, the identification of prices for services offered in the higher education market, the introduction of tuition fees, the search for explicit ways of measuring performance at all levels, and the appearance of a so-called 'Matthew effect', by which the best universities are rewarded for their excellence while the worst are punished for their mediocrity (Merton, 1968). All of these symptoms seem to require, or at least invite, the introduction of numerical representation as a 'common currency' (cf. De Boer, Enders, and Schimank 2008, 37-40).

Not all of these 'signs' apply equally across all higher education regime. In Germany, for example, fees have been abandoned (the last state to scrap them was Bavaria, in 2013), and the system is rather weak when it comes to the introduction of pricing mechanisms (cf. Fangmann and Heise 2008, 49). In this sense, the increased organisation around concepts of marketisation actually refers to the organisation of quasi-markets (ibid; Schubert 2008, 33). In the German higher education debate, quantification is primarily used to induce competition, reward the successful, and to link these programmatic values to self-observation (Schubert 2008). Moreover, the state no longer assumes full

responsibility for university budgets, but just oversees framework conditions 'at a distance'. This means that universities are given greater autonomy in managing their daily affairs and strategic choices, but are still held accountable for the performances that these choices yield (Jongbloed 2006; Shore and Wright 2000). To this end, processes of data collection, report writing, and evaluation move to the foreground. All of these activities are based on numbers, and feeding state regulators with a 'cockpit view' of the higher education landscape.

Various authors observe that NPM also sparks reform within universities, notably leading to a growth of organisational centralisation and an increasing managerial role for senior academic staff (De Boer et al. 2008; Ferlie et al. 2008, 335-6; Jongbloed 2006, 75-6). This complicates the apparently straightforward conceptual language of university reform. Principles of marketisation, for example, attain a wholly different significance *within* universities than they do *between* universities; and autonomy may refer to the university as an organisation, or to its individual members (Schimank 2005, 365). Instead of managerialism, 'governance at a distance' could unfold into forms of self- or networked governance internally, depending on the degree of entrenchment of past legacies and current preferences (De Boer et al. 2008; Ferlie et al. 2008). Moreover, the effects of NPM-based policies on structural conditions inside the university remain uncertain. Individual studies however, suggest the emergence of perverse effects, such as a strong indicator-orientation, gaming, and a loss of intrinsic motivation among academics (e.g., Espeland and Sauder 2007; Schimank 2005). These contributions indicate that the effects of NPM and its orientation toward numbers does not only have be sought in the withdrawal of the state and in efforts to create a market of higher education. It could also be manifested *inside* the university. In order to specify the potential consequences of this observation, we turn to the role of quantification in budgetary allocation processes in higher education (Espeland 2016).

2.2 The Dynamics of Performance-Based Budgeting

Quantification is often connected to NPM through its role in enabling performance measurement. The latter has come to play a particularly important role in the financial dimension of governance, where it shapes and modifies an academic understanding of performance that was traditionally defined in terms of mutuality (Scott and Hood 2004). Funding through the budgetary process is thus used as the lever to redefine performance. Indicators are used to allocate funds in an 'efficient' way, but they highlight only a few selected features of academic performance. As Miller (2001, 382) argues, "what is counted usually counts". The underlying assumption is that performance indicators establish a feedback mechanism through which the higher education system becomes more efficient, effective, transparent, and fair. We therefore consider the *budg-*

etary form an interesting site of conflict in which to study the relation between NPM and quantification.

Budgets are one common way to shape and steer the development of organisations (e.g., Wildavsky 1978). Budgets are drawn up to provide income and planning stability (Fangmann 2006, 56-7). Yet, they should not be mistaken as 'objectively' neutral or fair: they may favour specific organisational activities, or seek to reward particular aspects of performance, thereby creating inequalities or imbalances that highlight qualitative differences and encourage differentiation (Jongbloed 2011; Fangmann and Heise 2008). The underlying principle of NPM reforms is to allow resources to flow towards those parts of organisations that meet overall policy objectives best. Such objectives can be manifold, and consequently, budgetary models must balance various aims. They must be robust and at the same time able to adapt to changing conditions. They must allow for a differentiated approach and at the same time be fair and ensure sufficient resources for all. In the case of German universities, an important object appears to be the creation of a more autonomous organisation that is capable of resource prioritisation, which can steer *itself* towards better performance (Huber 2005, 394-5; Krücken and Meier 2006, 251-3). As universities demonstrate an enduring preference for stability and predictability, one of the central challenges they face lies in the management of uncertainties triggered by budgetary reforms.

Quantification plays a pivotal role in this process. Although cameralistic regimes use numbers to allocate resources as well,[1] under NPM ideals, quantification changes: in cameralistic regimes numbers *mirror* political decisions; in NPM regimes, numbers obtain a life on their own: performance is defined in terms of desirable organisational outputs, and subsequently operationalised in numerical indicators that guide university governance. The university is made to bear the consequences of the sum-total of its performance, leading, for example, to a strong emphasis on hierarchy. This is exemplified in the strengthening of leadership roles of university rectors, vice-chancellors, and deans in areas previously characterised by collegial decision making (Hüther and Krücken 2013). Scholz and Stein (2010), in a principal-agent based analysis, argue that before the emergence of NPM, the university was an organisation with many principals and one agent. The agent, the central administration, reflected the ministerial bureaucracy, and was tasked with representing in annual budget negotiations with the ministerial bureaucracy, the faculties as principals. The principals were greatly independent from each other and were mainly concerned with local self-administration. With the introduction of NPM in the 1990s, this relationship was turned upside down: the central administra-

[1] Numbers as such have been integrated in higher education policy for far longer, if not since the inception of the first existing university, for purposes of bookkeeping (Schubert 2008, 5).

tion became the principal and the faculties their agents, representing a hierarchical relationship more familiar to traditional bureaucracies.

The discussion above may provide the impression that the introduction of NPM-oriented budgeting marked a transformation, which has been more or less complete, and stable. However, the higher education literature has identified numerous factors that undermine or complicate the success of such managerialist reforms, among them scarcity, professionalism, welfare objectives overriding efficiency demands, and the simple fact that the higher education system meets a set of partially contradictory objectives (e.g., Ferlie et al. 2008). The German higher education sector has not altered these factors: resources are scarce, professional influence remains omnipresent (and constitutionally protected under Article 5(3) of the Basic Law) and, after years of political tug-of-war, a consensus has emerged among German *Länder* to renounce student fees for all EU residents, thus cutting off an important potential source of competitive financial resources (KMK 2015, 90 f). We therefore expect that attempts to introduce NPM-style performance-based resource allocation through state budgets are largely stymied by the weight of historical norms and commitments. At the same time, its introduction in higher education governance creates a new situation by making organisational performance, previously beyond the reach of reform, both commensurable and comparable in quantitative terms.

Managerial steering through internal mechanisms of performance-based financing is a hitherto less explored avenue for research. It is here that our second expectation comes in, which is that universities' internalisation of the core principles of quantification in budgetary models leads to an internal response that follows its own dynamic, namely one we label *internal resource competition* (IRC). Here, too, quantified performance indicators may introduce instability. We thus expect that universities' internalisation of quantification-based resource allocation produces multiple, interlocking, and unforeseen consequences. However, in contrast to much of the current higher education literature, we prefer to avoid describing organisational change in the normatively laden choice between remaining professional (e.g., Musselin 2007) or becoming an organisational actor (e.g., Brunsson and Sahlin-Andersson 2000). Rather, we highlight that the university is an organisation that *continuously* develops in order to cope with new challenges – in our case those related to quantification-oriented budgeting.

2.3 Research Design

To investigate the extent to which evolving budgeting forms in the higher education sector conform to the central tenets of NPM, we selected Germany as a single-case, in-depth exploratory study. Our case study serves to explore the possible dynamics of budgetary models that rely strongly on quantification (George and Bennett 2005, 80-1). The analysis focuses on the evolution of

quantification-based budgeting into the current model, which we label *pay for promise*. In order to shed light on this evolution, and its relation to NPM, we conduct a historical analysis that traces the influence of old budgetary legacies as well as new problems facing the university as an organisation.

The outline of our empirical study is based on a review of empirically informed literature on German higher education governance, most of which discusses the central aspects of budgetary model development. We also rely on documentary background information, such as government policy documents and budgets, as well as 10 original interviews with staff members in positions of university and faculty leadership. All interviewees work either in the central administration or inside the faculties and are closely involved in budgetary questions.[2]

All interviews were conducted in the state of North Rhine-Westphalia. We acknowledge that the focus on a single state diminishes the generalisability of the findings, as each German state operates a slightly different higher education policy, with its own budgetary system. However, North Rhine-Westphalia represents a disproportionately large case, containing roughly 17 per cent (14) of all universities, 27 per cent (768,840) of all students, and 21 per cent (€6.37 billion) of the cumulative higher education budgets in Germany (Destatis, 2017, 2018, most recent figures). Furthermore, non-systematic observations of the authors derived from ongoing research, as well as earlier research (Huber, 2005) suggest that similar trends occur in universities beyond North Rhine-Westphalia.

The influence of quantification on resource allocation is elaborated on the basis of the experiences of faculties and university administrations with resource allocation in four public universities. These help illustrate how particular organisational dilemmas played out in real-life settings. For reasons of anonymity, no further details can be provided about the individual universities. However, efforts were made to include a cross-section of universities in terms of number of students, age, and relative budgetary allowance. These characteristics are believed to make them broadly representative for the experiences of a large segment of German universities, highlighting the external and internal conflicts that arise in relation to resource allocation.

3. Pay for Promise: The Emergence of Internal Resource Competition

In this section, we analyse the role that quantification-based resource allocation has played in the realising of ideas and practices associated with NPM in Ger-

[2] An anonymised list of interviewees can be made available by the authors upon request.

man universities as well as on the historical process that led up to it. We set out by describing the historical trajectory, which shows how the IRC is the outcome of a number of reformatory steps. We start by reconstructing the old legacy of the cameralistic funding structure, and the way it interacted with the subsequent turn to performance-oriented budgeting. This historical analysis reveals a mixture of traditional and novel responses to the challenges posed by the advent of NPM-oriented budgeting. It also highlights the ensuing scarcity and instability that gave rise to the internalisation of quantification-based budgeting. This system has generated income instability and resource scarcity, which universities needed to manage. Thus, in our analysis, we give emphasis to the current state of performance-based budgeting in the German higher education sector. When adapting to the new flexibility they were given, universities generally did not copy-paste the 'pay for performance' strategy of the *Länder*, but rather engaged in a volatile form of perpetual budgetary experimentation, which we describe as IRC.

3.1 The Influence of Old Legacies

Until the 1990s, German universities were characterised by a stable budgeting situation known as *cameralism*. Essential characteristics of this model are its system of annuity and a rather inflexible allocation of earmarked budget lines, called 'titles'. These titles predefine activities and positions in detail and do not allow for the substitution of resources. The only task of universities' central administration in this case is to collect demands, communicate (and in few instances, negotiate) them with the ministries, and to implement them in a strict way (Fangmann and Heise 2008). Numbers mainly record the use of resources.

The cameralistic model was frequently criticised for several reasons. Financially, it left little room for experimentation or differentiation. The pre-set position structure made rapid adjustments to staff in light of external developments impossible, while its annuity system inhibited long-term investments. The fact that financial decisions were made at the ministerial level was interpreted as a further impediment to flexible and adequate allocations (Küpper 2003). Moreover, the fixed resource allocation for specific activities (book acquisition, for example) meant that faculties often attempted to use all available resources towards the end of the budgetary year (Kehm and Lanzendorf 2006, 154).

While these problems were lamented since the beginning of cameralistic accounting, it was only in the 1990s that NPM introduced a (more or less) coherent model[3] to overcome these shortcomings. As such, the first 'pay for perfor-

[3] In the German case, 'more or less' refers mainly to the regional versions of the NPM; each state developed its own ideas and features of new public management, highlighting specific features and suppressing others (see Hood 1991).

mance'-model (LOM) emerged at German universities. However, it did not substitute, but complement the cameralistic model. Overcoming the annuity and the detailed budgeting process between politics and universities, the new budget was critically defined by global budgeting. Consequently, it relieved the political arena of fine-tuning and long-drawn negotiations, and brought about the idea of a wider timeframe that should allow universities to plan long term (e.g., Kehm and Lanzendorf 2006). The organisational side of these reforms implied that universities should internalise the budgetary allocation conflicts, and delegate them downwards towards faculties and departments (Küpper 2003). The central administration first appeared as arbiter between the faculties, but legal decisions subsequently transformed it into a management department with its own strategic goals and ideas (e.g., Schimank 2005).

Meanwhile, the underlying logic and structural imprint of the cameralistic model remained largely in place. For example, the LOM system was from the outset tempered by various tweaks to its design (respondent #5). In most *Länder*, the component freed for LOM was limited to specific 'titles', never amounting to more than 20 per cent of the total university budget. Meanwhile, various components such as salaries or operational costs were already deducted from the starting amount. This was because the system by which permanent faculty positions were funded remained in place upon the introduction of the LOM. Furthermore, in the spirit of previous consensual state-university relations, universities continued to exercise major influence on the determination, operationalisation, and weighting of the various indicators used for the state LOMs (respondent #3). In the state of North Rhine-Westphalia, maximum fluctuations from one year to the next were capped at 2 per cent; in practice however, fluctuations remained even more limited. Other volatility-avoiding measures included the avoidance of cumulative losses or gains over the years by the establishment of an annually recurrent baseline sum (respondent #2), and the averaging out of measured performance over the last three years (Zechlin 2008, 65). This has led some to argue that the LOM system is merely an inconsequential game, which professes the virtues of competition, but ultimately aims at preserving stability (respondent #1, #5). As one respondent argues:

> …everything gets calculated, but [universities] can only win or lose in homeopathic doses. Nothing changes. It is a game of marbles. (respondent #3, state ministry)

Budgetary autonomy formed only one component of the reform, however. At the outset, the global budget was linked to significant cuts in income. It also differentiated budgets into a basic and a performance-related pillar. In North Rhine-Westphalia, universities accepted the LOM law and budget cuts, in exchange for a promise: the higher education sector was to be left alone in further rounds of budget cuts (respondent #3). Illustrative in this regard is the fact that the number of fixed faculty positions, which used to be contingent on the number of students, gradually began to lag over time, leaving universities

systematically understaffed. Moreover, while additional funds for teaching activities or quality improvement (e.g., the *Hochschulpakt* (cash for additional study places agreement), and the *Qualitätspakt Lehre* (teaching quality agreement) were created over the past decade, both programs are earmarked and temporary. This generates new challenges for the university's central administration in terms of budgetary uncertainty. As one university managers stated:

> I may have more money than I had [10 years ago]. But in spite of this, I have not really become freer in the way I spend this money. And there are many things that I can only pay out of the basic budget. (respondent #2, university's central administration)

Our analysis suggests that the LOM system focuses particularly on routine operations, and remains relatively ineffective with regard to change or innovation, except where additional money can be acquired. The overall annual budget, however, is only marginally affected. Most of the resources are applied as usual out of necessity: the major structural demands – relatively consensual state-university interactions, pre-set positions, functions to be performed – are still inherited from the cameralistic model. The main innovation lies in the emergence of quantification as a method of determining the allocation of some resources. And it is exactly this innovation which the university turns to in tackling two new problems that are not necessarily inherent in performance-based budgeting, but which certainly coincided with it: (i) resource scarcity, and (ii) the instability arising from a declining proportion of funds coming from the central budget.

3.2 The Emergence of New Problems: Scarcity and Instability

In the 2010s, the global budget model shifts the main locus of resource allocation. What was once an affair between the university's central administration and the ministry becomes one between different university faculties. As a result, internal negotiations turn into a competitive struggle. Because of austerity, the effect of the new budgetary situation is harder-hitting than it would have been otherwise. Additional funds available to universities are either temporary, such as project funds from the German Research Foundation (DFG); they are scarce, such as funding under the national Excellence Initiatives: they are earmarked for specific purposes, such as the *Hochschulpakt* funds; they are for facilitating the growth of student numbers; or they are a combination of these factors, meaning they cannot be spent freely. It is in this context, in response to the structurally perverse effects of the performance-based budgeting system, that the IRC model has emerged inside universities (respondents #2, #7).

The dual pressures of austerity and external demands for quantifiably demonstrable performance has presented universities with two possible ways for managing their income. They can either continue resource distribution with fixed percentages, or they can adopt a performance-oriented model for purpos-

es of internal resource allocation. The former option would lead to broad cuts that undermine functionality in all parts of the university. The latter option, by contrast, offers the persuasive strategy of developing an experimental performance-based model that can be tweaked for improvement; it also introduces competition among faculties. The performance-oriented model has the added benefit for universities in that it allows them to make individual departments and faculties responsible for their own losses (respondent #2). Universities began to consider what dimensions and quantitative indicators of performance should be included in their internal resource allocation models, all the while retaining a modicum of flexibility in their decision making (respondents #1, #3, #7). Many central administrations soon discarded potential indicators types, such as bibliometrics, teaching quality, or regional business and social impact, which were considered too difficult to assess across the entire university, or too volatile to be implementable. Hence, the first step in a process towards a pay for promise model was simplification: the main legally defined functions of universities – teaching and research – needed to be accounted for through a manageably small set of indicators.

3.3 IRC: Product of Old Legacies and New Problems

Within the original LOM system, teachers and researchers remained relatively disconnected at the individual level. The amount of redistributed resources, which were largely symbolic in character, hardly motivated them to change their behaviour (Minssen and Wilkesmann 2003). This changed with the emergence of the IRC system, which markedly affected actors' roles and opportunity structures inside the university. This system is characterised by the emergence of an increasingly influential administrative centre, which incentivises faculties to present plans on how to gain additional funds – usually on the basis of (partly-) quantified promises of performance. Faculty plans often take the form of (binding or non-binding) performance contracts with explicit targets, which are then the subject of negotiations between faculties and central administration. Performance indicators provided by external actors, such as the state (e.g., the North Rhine-Westphalian and its *Analyseraster* ('analytical grid'), or the DFG and its so-called *Förderatlas* ('research funding atlas'), provide focal points in such discussions. The new tasks of internal negotiations and the injection of accountability, lead to the introduction of new information technologies. Designed to collect and analyse performance data, these technologies also demand new administrative personnel (respondents #2, #7). The growing importance of an administrative centre, which was already significant from an external perspective (e.g., in support for large state funding or project applica-

tions), has now been projected inward.[4] Meanwhile, bodies of university self-governance are weakened; in some cases, the roles of these entities have been transformed, from co-decisional to consultative. A role reversal thus occurs in which the central administration turns from agent into principal (Scholz and Stein 2010).

The broad contours of the trend towards an IRC system align with the intentions underlying the LOM system: universities are beginning to fill in their newly granted autonomy with *strategic* decision making. However, it also has unforeseen consequences, of which we will highlight two examples. The first is the emergence of interdepartmental competition and mutual monitoring. Although faculties have retained a degree of autonomy, under IRC, the success of one faculty challenges the financial room of the others. Loose coupling, something traditionally seen as key feature of the university (Weick 1976), transforms into competitive, 'tight coupling'. However, interdepartmental competition faces the obvious problem that the ways in the faculties can actually compete with one another are rather limited. Competition is oriented along crude divisions unfit for steering (natural vs. social sciences, research vs. teaching). This means that the various parties continually struggle over the formulation of common indicators of performance. In some cases, faculties compete directly, but on the basis of differentiated criteria (respondents #1, #2, #7), leading them to jealously monitor each other's key performance indicators and annual funding. A second unforeseen consequence is found in faculties' growing tendency to accrue large savings. This option is open for faculties, as funds no longer need to be used up within the year. As a consequence, however, the higher education sector reflects a paradoxical situation in which large pockets of self-inflicted austerity characterised by underfunded facilities, research projects and study programmes, are matched by large amounts of unspent public money (respondent #6).

The IRC distinguishes two sources of income for universities: basic funds and supplementary temporary resources, i.e., periodic block grants based on recurrent performance contracts with the central administration. While the basic and performance oriented budgetary lines continue to exist within the organisation, *strategic funds* emerge as a new additional budgetary source. These funds are taken from the other two sources and handed out on a competitive basis by the central administration.

The strategic budget provides the administrative centre with the possibility to allocate often times up to 20 per cent of the overall budget, with the exception of certain earmarked funds, e.g., for library operations or rent of buildings. This 20 percent is distributed according to administrations' strategies and priorities, which substantively increase its influence, and invites a more managerial

[4] Growth also means internal differentiation; e.g., university administrations today typically include an information management and strategy department.

form of decision making. The remaining 80 per cent of the overall budget is distributed in a predictable and relatively inflexible manner. This amount is, however, insufficient for faculties if they are going to cover their costs and thus bring about the level of performance expected by external actors.[5] The universities' central administrations thus apply a strategy for the allocation of strategic funds that is first and foremost focused on the need to provide minimal output across faculties; and secondly and more interestingly, this strategy is focused on faculty-specific and strategically relevant investments creating additional income through overhead budgets.

Decisions on the application of funds frequently rely on quantitative indicators of prospective successes, which are reinforced with examples of retrospective performances, such as numbers of persons (to be) reached with a conference, publications (to be) produced, or external funds (to be) attracted with a strong proposal (respondents #2, #7). This creates a dynamic which can be described as 'pay for promise' – money is allocated according to future expectations of success instead of measurable success. The *pay for promise* model builds its aspirational narrative of impact, excellence, and competition around numerical indicators. In practice, however, it goes beyond pure quantification. One of its central characteristics is constant experimentation:

> For a number of years, we had a system that focused on support money in the application process. [...] However, when the evaluation [of the system] came, we were surprised and sobered how little effect it actually had. [...] And then the idea of a post-success premium came up. [...] We tried the one thing for several years. That did not have the desired effect, and *so we tried out the other thing*. (respondent #2, university's central administration, emphasis added)

The newly gained managerial powers of the central administration have emerged in a situation where they may be overwhelmed, and requires them to cooperate closely with academic professionals. Organisational reforms thus require a form of decision making that is both strategic *and* consensual. Imposing central strategies on professionals seems futile:

> The university leadership is a political institution, right? [...] They can only ever reach something when they have the overwhelming majority of faculties behind them. [...] There are a few university administrations who have tried [to push through unpopular financial reforms]. They paid a high price [...]. (respondent #3, state ministry)

Thus, the political nature of strategic allocations demands more flexible forms of number-oriented control than hard, formulaic quantification would allow for. Project-specific evaluations, the use of IT models to analyse information, and

[5] It is important to notice that the state allocations are linked to expectations that the university is autonomous in the choice of the means it uses to meet certain performance goals. The leeway between state expectations and university strategies is not clear, neither practically nor legally. This constitutes a problem that will occupy the sector over the next years.

new coordinating arenas, provide the central administration with the necessary means to establish a control regime. This regime binds the central and faculty levels tightly together on the basis of 'softer', but continuous performance measurement (respondent #1). Although this resource allocation model clearly asserts the primacy of a central administration over faculties, it is based on negotiations and sparks unforeseen responses. For example, faculties, now cast against one another in a form of competition for strategic resources, engage in processes of mutual observation through performance indicators. Meanwhile, underperforming faculties turn into 'disposable budget titles' in the central administration's search for an efficient resource allocation model (respondents #6, #7). Savings are realised through the underfinancing of faculties in universities' central budgets, and in managing a multitude of discretionary funds held by faculties and individual researchers (respondents #3, #6). Such savings seem to be substantial across faculties, universities and the sector. One respondent even estimated that they constitute roughly one full annual budget for their university (respondent #6). Given this volume, it could be assumed that they are economically irrational (and politically risky); they emerge out of organisational uncertainty manifested at different levels of the university, and seem to be mutually reinforcing.

These new strategic elements of resource-allocation within the university and their effects first emerged in German universities around 2010. It was around this time university administrations were forced to develop negotiated solutions. The processes that unfold add another layer to the performance-oriented funding of universities. In the following section we discuss this new development in more depth.

4. Quantified Budgeting: Layers of Hybrid Managerialism

In the previous section, we have described the historical trajectory that in recent years led German public universities to adopt an IRC system. This system is characterised by a budgetary allocation model of 'pay for promise', whereby faculties and individual researchers compete for scarce resources on the basis of flexible and continually changing quantified performance criteria. In this section, we explore the extent to which the current system is underpinned by an NPM-based governance logic, and what role quantification plays in this regard. First, we consider to what extent the budgetary reform process aligns with the logic of NPM (section 4.1). Second, we consider the role played by quantification in the change process (section 4.2).

4.1 Higher Education Budgeting Reform as an Expression of Managerialism

To what extent do the evolving budgeting forms in the higher education sector conform to the central tenets of NPM? The advent of the LOM system in the 1990s, and the successive IRC system in 2010, were intended to radically overhaul the resource allocation process. NPM-oriented innovations are visible in this regard: there has been a shift towards 'steering at a distance' (by replacing title budgeting with a global budget), accountability on the basis of explicit criteria (the LOM's performance indicators), and the institutionalisation of the 'Matthew effect' (allocation of funds to 'winners'); and all of these developments aim to improve the system's overall efficiency. Moreover, central university administrations attained an increasingly managerial role by assuming control of the efficient allocation of resources. These features of NPM shape the reform of German universities. Even if market-creating instruments, such as tuition fees or pricing of individual aspects of higher education, did not attain a prominent role in Germany, NPM has still shaped reform processes.

Although the LOM system reveals a strong NPM orientation in design, in practice, there are several limits to this approach which become apparent. From the outset, only a very limited proportion of the state budget was allocated according to principles of competition. No more than 20 per cent of the overall flexible budget was detracted after costs of library, heating, or maintenance were discounted. Moreover, over time, the budgetary system grew in complexity through the successive layering of instruments and 'principles'. The current budget not only contains a basic income and a performance-oriented element, but also includes features that circumscribe its central principle – that of rewarding performance – in order to shield the university system from financial shocks that would put its very existence at risk. This demonstrates how budgeting unfolds stability-seeking effects that largely outflank the new dynamics of competition and excellence propagated by NPM. The waning importance of the performance-based element in the LOM system is further evidenced by the introduction of indicators addressing societal-procedural, rather than organisational, output objectives. Significant in this respect is the introduction of an indicator for promoting gender equality in 2012. Finally, a further concession of the state to the competitive and efficiency-driven logic underpinning the original LOM system can be found in the parallel introduction of temporary project-based funds, which were added, often on an input-basis, to the competitively allocated budget.

Thus, the way in which university budgets have come to operate in recent years alters the LOM system in several important respects. Elements of the competitive resource allocation logic that characterised the state LOM system are now introduced in university (IRC) decision making. However, the two models are not necessarily coupled; instead, they tend to have distinct features,

weights, and foci. This is in part explained by the diversification of potential income streams – university administrations are increasingly responding to an amalgam of external financial incentives. The character of university-internal budgeting is therefore pivotally distinguished from the LOM system in that it increasingly orients itself to forms of flexible steering in what is considered an uncertain and ambiguous financial context.

The new systems changed the orientation, from past performance to an increasingly forward-looking perspective on resource allocation. Whereas the LOM system traces internal performance on the basis of past performance, the university-level IRC system, by contrast, seeks to steer faculties' output by rewarding promised future performance. It prescribes performance in sometimes specific, sometimes general terms, indicates where (necessary) economic benefits could be gained, and flags desired behaviour in terms of commitment to competition or strategic aims. Thus, university administrations have developed a means to internalise and balance external expectations. As a result, the evolved budget allocation process under IRC lends the central administration greater autonomy. Initially, the administration's role under the LOM system remained similar to the one it had in the former cameralistic tradition, namely a tool for bureaucratic control rather than managerial steering. Now, it gains leverage over faculties, but also assumes greater responsibility for the process of resource allocation. Consequently, it has moved beyond the role of interlocutor to act as a funder in its own right, with its own autonomous preferences.

The IRC system negotiates prospective projects. The future-orientation of this task demands an expanded bureaucracy at the central level, which is capable of monitoring faculty and individual performances in real time. It also is expected to assess the degree of realism and ambition in proposed performance promises. The need to gather and digest the growing volumes of quantified information requires an increase in administrative capacity, both in terms of manpower and numeracy (e.g., Grendel and Rosenbusch 2010). The IRC system creates more experimentation with potential organisational futures. Developing administrative capacity at the university's centre thereby acts as a way to monitor the success of the steering methods employed, and suggests alternatives that are potentially more efficient. In response to the development of the university over the past decades, the university appears to be transforming from a quasi-bureaucratic to a quasi-entrepreneurial organisation; the main challenge of this new entrepreneurship concerns the presence of multiple, partially contradictory objectives. Budgetary structures offer avenues to funding that are partly competitive, and partly characterised by historical and societal expectations. These various ways of funding carve themselves into the organisational structures and procedures of the university. Thus, as historical sediments and budgetary needs of stability undermine the advance of a fully-fledged NPM reform, this process can only partially align with the NPM logic.

4.2 Quantification: Partial Companion to NPM

The role of quantification in budgetary systems that conform to an NPM-based governance logic is often considered to be largely complementary. 'Steering at a distance' requires unambiguous output criteria that performance indicators can provide. Our empirical analysis broadly confirms this reading by finding that quantification forms a necessary condition for NPM reform in the German higher education sector. However, it is not a sufficient condition, in the sense that other preconditions must be fulfilled before NPM-based budgeting can function. Furthermore, we also find that in many cases, key performance indicators play a hybrid role. In practice, they are partially implicit, constantly shifting, and inform decision making only in part.

For the first time, the LOM system's performance-oriented budget component marked a desire to define and measure university performance, and to attach consequences to the measurement's findings. In this sense, LOM indicated a clear shift towards the reliance on quantification to achieve NPM-oriented goals. Whereas previously numbers had also been tracked, these usually signalled production volumes (largely inputs), without any intrinsic value or self-governing mechanism attached to them. The LOM system now selected quantitative indicators for desirable performance, which identified achievements that could be compared with past performance and performances of other universities. LOM not only observed university performance, it used these numbers to govern and steer universities (and later their academic professionals as well).

At the same time, in order for NPM-based resource competition to function, decision makers ought to see the 'logic of the indicators' irrespective of its consequences. *This of course did not happen*. From the outset, state-university negotiations about which parameters would be used led to the curbing of the LOM system. Caps on the competitive fund size and maximum annual fluctuation were maintained in order to preserve the functionality of universities. Meanwhile, agreements were reached on the exclusion of certain budget elements from the calculation, such as building rents and fulltime staff salaries. Quantification can also be employed to *counter* potential competitive effects considered to be perverse. This is for example the case with the fulltime student equivalent (*Vollzeitstudienäquivalent*, VSÄ), where a weighted formula for differentiated payments is used to compensate for higher costs associated with students enrolled in the natural sciences. In other cases, quantification was used to promote societal values not typically associated with NPM, such as increasing the proportion of female professors or migrant students. Finally, quantification gradually emerged in budgetary instruments beyond the LOM. Some of these, such as university performance contracts, were prospective. This form of reliance on numbers, however, fundamentally altered the role of quantification, making it more flexible, indirect, and prone to the dynamics of negotiation.

In recent years, the growing diversification of performance information has been inaugurated with the advent of IRC. Central administrations' newly acquired autonomy enables it to evaluate, assess and decide on a more or less reasoned basis. The strategic information basis provided through quantification efforts forms the infrastructure that supports such decision making. The university-internal IRC system signifies the first comprehensive effort at collecting detailed organisational knowledge about academic performance. As it is used for strategic purposes in a complex funding environment, indicators are overwhelmingly future-oriented insofar as they are based on promises. Prospective performance systems can, however, as a matter of their nature, be quantified only partially. Out of the large pool of potential indicators on which agreements can be based, new ones are constantly suggested, forming a starting point of recurrent negotiations between the central administration and faculties. In this sense, quantification forms part of continual consensus-seeking discussions and can therefore hardly be characterised as 'steering at a distance'. At the same time, quantification offers the central administration an important means to set the tone in a partially implicit manner. By indicating the possibility of modifying the allocation model in internal proposals, it provides crucial strategic signals for where it wishes to see change.

Quantitative signals may also stoke competition in unlikely, unpractical, or undesirable areas. In the case of the IRC system, this is evident in the emergent competitive relation between faculties. The IRC system's idea is to calibrate a given discipline's performance to the average performance of all disciplines, after which individual as well as organisational performance can be readily compared and appropriately steered. The organisational need to compare discipline-specific performances, which from a disciplinary viewpoint are incommensurable, makes indicators more abstract and open to interpretation. This turns them into highly contested areas of intra-organisational conflicts. A functioning performance-based steering model, however, presumes the possibility of an approach that does justice to all of the university's faculties. Another example is Kieser's (2010, 358ff) finding about the effects of performance-based resources allocation: only that which is measured attracts resources, and thereby crowds out traditional professional performance; intrinsic motivation is substituted by extrinsic motivation. Addressing the perverse effects of NPM-based resource allocation, which are enabled by progressive quantification, thusly remains a permanent concern.

5. Conclusion

In this contribution, we outlined the evolution of financial management at German universities. We started with the juxtaposition of cameralistic approaches to the first elements of quantification in the form of LOM, which

subsequently became institutionalised in IRC. The layers of the three subsequent budgetary phases interact with each other in the sense that the IRC forms a recalibration in response to the shortcomings of the initial reforms. The LOM turns universities into organisations that need to administer actively the resources that come their way, and do so through pay for performance schemes. Under conditions of scarcity, they start to save. As a consequence, new managerial forms are developed; these are less competitive, but put considerable bureaucratic and negotiating pressures on universities' faculties and staff, as they have to ensure budgetary stability.

At the outset, we asked about the extent to which an NPM-based governance logic underpins the current state of budgetary allocation models in the German higher education sector. We conclude that this question warrants a qualified response. After all, NPM-style performance-based resource allocation is critical to the development of higher education, yet remains largely stymied by the weight of historical norms and commitments. At the same time, it creates a new situation by making organisational performance, previously beyond the reach of reform, both commensurable and comparable in quantitative terms. Quantification and the selection of indicators played a critical role in the course of this strategic evolution – it helped resolve the paradoxical situation that NPM presupposes organisational management, before performance orientation and competition can be implemented. The solution is to generate comparable data, which can substitute and automate management. Centralised agency slowly emerges in the university, where it has become taken for granted. Yet, it looks much less efficient and transparent than the change promised by NPM.

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